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AUTHOR Goodkind, Hilary M.
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ABSTRACT

To provide recommendations for Oregon's continuing education (CE) efforts, a study was conducted to determine how CE is valued, documented, and coordinated among institutions of higher education, state boards and professional associations, and business and industry. Two separate questionnaires were developed. One was distributed to 27 state boards and professional associations, while the other was sent to 43 community colleges and universities, with both 70% of each group responding. In addition, 20 Oregon employers identified as using CE were interviewed regarding their perceptions of the status of CE. Study findings included the following: (1) 45% of the state boards developed the standards for CE requirements, and 41% approved the requirements; (2) professional associations were the largest providers of CE, accounting for 31%, while universities accounted for 27% and community colleges 20%; (3) 64% of the boards and associations felt that CE requirements would remain the same, and 29% felt that they would increase; (4) for responding higher education institutions from Oregon, 32% provided college credit to document participation in CE, 29% provided credit for lifelong learning, and 22% provided CE units; and (5) 70% of the employers required employees to continue their education. In general, the study found little coordination among each group. Recommendations include a move towards proficiency-based systems, particularly at the community college level; continued collaboration and coordination to form one system for lifelong learning; commitment to raise skill standards within Oregon; and continued measurement and evaluation of progress. (Contains 21 references.) (KP)

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Lifelong Learning and Workforce Advancement in Oregon: Challenges and Opportunities

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Hilary M. Goodkind, M.S.

Coordinator, Workforce Advancement Project
Lane Community College

Synthesis Paper
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Table of Contents

Summary

I. Introduction 1

II. Literature Review 4

III. Methodology 7

IV. Findings 9

State Boards and Professional Associations 9

Oregon Educational Institutions 13

Employers 16

V. Discussion 29

Oregon Educational Institutions 29

State Boards and Professional Associations 31

Employers 33

VI. Conclusion 36

VII. Recommendations 37

VIII. Attachments 46

References

Attachment A: Survey Results & Interview Transcripts

Attachment B: Employer Contact List (confidential)

Summary

In order to prepare future members of the workforce to participate in a competitive global economy, initiatives have emerged throughout the state of Oregon. The Workforce Quality Act intends to build a world class, competitive workforce by the year 2000. The Education Act for the 21st Century (H.B. 3565) proposes a restructured education system, incorporating an internationally benchmarked system of proficiency-based, technical and professional certification. The combined initiatives attempt to form a single coordinated system that will develop lifelong learners and offer workforce training.

The purpose of this study is to provide a wide perspective on how continuing education is valued, documented, accepted, and coordinated among three major forces: 1) higher education institutions 2) state boards and professional associations, and 3) business and industry. This study describes the current status of continuing education offering insight and recommendations to facilitate movement towards Oregon's benchmarks. This study confirms that little coordination currently exists among the three groups. Each seems to be operating in isolation from one another, with multiple certification programs in existence.

State boards and professional associations play a dominant role in establishing and approving continuing education requirements for their professions. The continuing education requirements they establish are often fulfilled by the professional associations themselves. Professional associations become the providers of continuing education for the requirements they set. The requirements seldom correspond to the degrees or certificates offered through education institutions, nor do they address precisely the skills employers seek.

Oregon higher education institutions offer continuing education to many populations with diverse goals. An array of continuing education and training opportunities attempt to meet state requirements and employer trainings needs; however offerings are wide and varied, seldom corresponding directly to the needs of any one group. As resources dwindle, colleges and universities indicate that professional training and continuing education programs offer a means to supplement funding. There is a danger that by offering revenue - generating programs the institution's mission may be compromised. Higher education institutions are quickly being forced to examine their roles within this new environment.

Personal interviews with employers support the assumptions that adequate job skills are of greater value than college degrees. Employers piece together training and education programs that benefit the organization, drawing on outside resources as they see fit. Frequently employees are required to seek job - related continuing education, often at the employer's expense.

Professional associations and higher education institutions are attempting to meet those training needs through their course offerings, contract education, and innovative partnerships; however, employers continue to implement their owns standards to measure proficiency and skill level.

This study portrays lifelong learning and workforce training as a disjointed system. Within the system, groups are working to coordinate efforts. In order to achieve the benchmarks, partnerships will need to be formed among the three groups contributing to education and workforce training today. The Education Act for the 21st Century and the Workforce Quality Act are efforts to create a system for lifelong learning that will force all three groups to coordinate their efforts. Coordination, even when clearly needed, can be threatening and can trigger hostility as people and entities worry about issues such as control and scarce resources. Professional associations would need to relinquish their control of continuing education. Community colleges would need to

focus on several areas of education instead of trying to be all things to all people. Employers would need to re - examine their training and education system.

Still in their infancy, the state initiatives aim to create a single coordinated system among the three forces that will result in an educated citizenry and world-class workforce. Challenges and opportunities present themselves as a result of the study, involving the formation of partnerships, increased collaboration, and leadership roles for each of the three forces that will help to facilitate the changes needed to achieve Oregon's benchmarks by the year 2000. The success of the two acts depends on the implementation of change. These changes should not occur piecemeal or the acts will fail. The combined mandates of both acts suggest a major revamping of systems that involves rethinking the structure and delivery of lifelong learning.

I. Introduction

Initiatives designed to prepare future workforces to participate in a competitive, global economy have been undertaken at different times in Oregon. In 1989, then-Governor Neil Goldschmidt released Oregon Shines: An Economic Recovery Strategy for the Pacific Century. His vision was to "Invest in Oregonions to build a workforce that is measurably the most competent in America by the year 2000, and equal to any in the world by 2010." "Oregon will build strong partnership between business, government, labor, education, and citizens groups to identify opportunities to build competitive advantage"(Goldschmidt, 1989. p.3).

In 1990, the Oregon Progress Board was formed and released Oregon Benchmarks: Setting Measurable Standards for Progress. The benchmarks set forth in the report were proposed to measure Oregon's progress in the next 20 years. The benchmarks were presented to the Oregon Legislature in 1991 as the "Oregon Workforce Quality Act." Stated within the Act,

> The Legislative Assembly finds that the quality of the workforce is critical to the productivity of the state and to the competitiveness of its businesses and industries. The legislative Assembly declares that it is the economic development policy of the state to support and promote education and training for students, workers and businesses (Oregon Economic Development Act; Oregon Workforce Quality Act, 1991. Chapter 667, Section 2).

The Workforce Quality Act outlines a comprehensive system designed to achieve the benchmarks. Oregon faces challenges and has opportunities to form partnerships among three major forces influencing the education and development of the workforces of today and tomorrow: 1) higher education institutions, 2) state boards and professional associations, and 3) business and industry.

Members of each group are currently working to educate the citizens of Oregon. Their efforts will need to be further coordinated. Higher education institutions are expanding their

programs, increasing their involvement with local communities, and planning to educate a future workforce with diverse and changing needs. State boards and professional associations for many fields establish requirements for licensure or certification. They face increasing challenges in maintaining, measuring, and documenting standards for professions in the midst of change. Business and industry likewise are bracing themselves for change, seeking to interact with their communities, finding new ways to do business, and increasing the quality of their workforce. With the deadline to develop a world-class workforce less than six years away, members of each group face major challenges to increase standards and raise the quality of the members of the current and future workforce.

Continuing education offered through the state's higher education institutions will affect the state's ability to achieve its initiative by the year 2000.

> Continuing education and retraining programs must be bolstered to reflect the declining number of new entrants into the workforce and the growing number of workers who will need retraining and re-education over the next 20 years....Throughout the state, continuing education suffers from fragmentation of service delivery, resulting in duplication of programs in some areas, and lack of programs in others (Goldschmidt, 1989. p. 13).

Few formal efforts to coordinate continuing education throughout the state among the major forces exist. Networks among higher education institutions exist, yet for the most part continuing and extended education programs seem to operate in isolation from one another. Training and education emphases seem to be established on a piecemeal basis, responding to immediate demands of business and industry, state board and professional association requirements and the need for additional resources within higher education. State boards and professional associations actively establish and uphold continuing education requirements for licensure. Business and industry comply with these standards but are concerned primarily with the skills and performance of their workforce.

This study provides a perspective on the current status of continuing education, including how it is valued, documented, accepted, and coordinated among 1) higher education institutions, 2) state boards and professional associations, and 3) business and industry. It describes the current status of training and continuing education, offering public policy recommendations that may assist with the future advancement of the workforce. The recommendations may offer opportunities to strengthen links among education, business, the state, and professional associations that ultimately assist in the creation of a world-class workforce.

II. Review of the Literature

Literature on the coordination of training and education efforts among educational institutions, state boards / professional associations, and employers is scarce. The following literature describes coordinated reform efforts designed to create a comprehensive system for lifelong learning.

National efforts have been launched to increase skills within the workforce. The Secretary's Commission On Achieving Necessary Skills (SCANS) issued a report, Learning a Living: A Blueprint for High Performance" (1992). The National Center on Education in the Economy (NCEE) issued a report, "America's Choice: High Skills or Low Wages!" (1990). Both reports urge specific workplace proficiencies as objectives of education at all levels. They offer a framework of workplace proficiencies and foundation skills needed for job performance. The SCANS report suggests that the structure of elementary and secondary education should be focused around an internationally benchmarked Certificate of Initial Mastery (CIM). For those students who do not pursue the baccalaureate degree, a comprehensive system of technical and professional certificates and associate degrees would follow.

Within the state of Oregon, educational reform activities and workplace initiatives incorporate many of the NCEE and SCANS ideas into public policy. The Education Act for the 21st Century (H.B. 3565) adopted the Certificate of Initial Mastery (CIM) from the NCEE report. The Oregon State System of Higher Education (OSSHE) has adopted a proficiency-based admission system that will incorporate many of the CIM and CAM standards into the state higher education system's admissions procedure. The Workforce Quality Council is attempting to increase the skills of the current workforce through the use of workplace proficiencies. The new educational model intends to promote a continuum of lifelong learning that will ultimately increase the quality of existing and future workforces through training and education. It is through the reformed educational model that Oregon hopes to achieve its goal of a world - class

workforce. This current change model is more revolutionary and more comprehensive than those of the earlier 1980s (Clark, 1993. p.5).

Workplace skill standards were produced by SCANS in 1992, offering a framework for establishing specific standards. The workplace skills involve essential competencies and foundation skills.

> Workers use foundation skills-academic and behavioral characteristics-to build competencies upon. Foundation skills fall into three domains: basic skills...thinking skills...and personal qualities. ...Competencies, however, more closely relate to what people actually do at work. The competencies that SCANS has identified fall into five domains: resources...interpersonal skills...information skills...systems skills...and technology utilization skills (Whetzel, 1992. p.1)

Additional job analyses and competencies are provided by SCANS in Skills and Tasks for Jobs: A Report for America 2000 (The Secretary of Labor's Commission on Achieving Necessary Skills, 1991). This report identifies generic competencies, foundation skills and illustrative tasks corresponding with job titles and examples. Both of these SCANS reports offer a framework from which to build a useful and comprehensive training and continuing education system.

Organizations in Oregon have published reports since the passage of the Workforce Quality and Education for the 21st Century Acts. Each report documents the need for education reform and workforce training. The American Association of Community Colleges published a policy paper, "The Workforce Training Imperative: Meeting the Needs of the Nation."(1993). The policy paper "examines current systems of providing workforce training and argues that community colleges represent an in-place infrastructure that can be more effectively utilized to expand and improve training for American workers where it is most needed" (1993, p.1). The Oregon Business Council published "A Business View: Education Reform in Oregon," which

> "outlines in greater detail the rationale for school restructuring, provides a definition of school restructuring, considers some general principles that frame efforts to transform

schooling, and concludes with a series of recommendations for the Legislature and for Oregon's business community designed to continue the process of fundamental educational reform set into motion by H.B. 3565" (1993, p. 1).

The Labor Education Research Center at the University of Oregon published "Worker Education and Training in Oregon: The Challenge for Labor" (1992). The report outlines policies and takes the position that "Labor believes that fundamental reform of education is needed" (University of Oregon Labor Education and Research Center, 1992. p. 6). In 1993, the Oregon Economic Development Department, commissioned by the Workforce Quality Council, published "Oregon Works: Assessing the Worker Training and Work Organization Practices of Oregon Employers." The report summarizes the findings of the Oregon Employer survey of over 4,000 Oregon employers and concludes by outlining challenges for the state's future and recommending partnerships and collaboration in education.

III. Methodology

This study is exploratory and descriptive in nature. It investigates the coordination of continuing education systems in order to generate recommendations and further research questions. A literature review offered the necessary background information on national and state lifelong learning and continuing education systems in relation to educational reform and workforce training activity. Preliminary research identified the professions requiring relicensure or recertification. Sample groups of professional associations and state boards were selected for the study based on the requirement of continuing education in their fields. The sample groups of employers are representative of cross sections of industries varying in size and type. Each of the organizations chosen has employees in positions that are required by either state boards or professional associations to fulfill continuing education requirements. Field tests were completed with both sample groups to aid in the development and fine tuning of the terminology used in the questions posed.

Professional associations and state boards in fields requiring continuing education, and educational institutions offering continuing education and contract education were identified to be surveyed. "Survey research is the appropriate mode of inquiry for making inferences about a large group of people from data drawn on a relatively small number of individuals from that group" (Marshall & Rossman, 1989. p. 84). Two (2) separate questionnaires were designed for state board / professional associations and Oregon institutions of higher education. The survey questionnaire that was designed and distributed contained a mixture of categorical questions to collect data and responses to open - ended questions. The questionnaires were designed and distributed to the sample group of 27 state boards / professional associations and 43 institutions of higher education, including community colleges and universities. Nineteen (19) state boards and professional associations (70% response rate) and 30 universities and community colleges

(69% response rate) responded to the survey. The results of the survey questionnaires were hand tallied and responses to the open ended questions were partially transcribed.

A sample group of employers was selected, varying in size, complexity and industry type. The sample group is representative of the range of organizations operating in Oregon. An interview schedule utilizing a combination of questions to gather statistics and data was designed for employers. Gathering information from the employer sample posed a terminology and language challenge in discussing training, education, and values with employers. "Formal interviews are sometimes necessary in research in order to standardize interview topics and general questions" (Marshall & Rossman, 1989. p. 84). To standardize both the language, terminology and the questions, the employer interviews were conducted in person, at the worksite. Twenty (20) interviews with employers were completed in person. The results of the interviews were partially transcribed and statistics were hand tallied. The descriptive statistics and interview transcriptions were consolidated, compared, and analyzed.

IV. Findings

State Boards and Professional Associations

This section outlines the findings of the state board and professional association surveys.

The results of the survey of state boards and professional associations yielded a 70% response rate.

State board, and professional associations' role in establishing continuing education requirements:

State boards or licensing agencies play a dominant role in establishing and approving continuing education requirements for their professions. They are most likely both to develop the standards for the continuing education requirements (45%) and to approve the continuing education requirements (41%). Professional associations play a far less dominant role in the establishment and approval of continuing education requirements. Seven percent (7%) of the state boards and professional associations responding to the question develop the standards for continuing education, and another 7% approve the continuing education requirements.

Outcomes and measurements most acceptable in meeting the continuing education requirement:

The outcomes and measurements that are most acceptable and meet the continuing education requirement for relicensure or recertification include professional conference attendance (19%) and continuing education units (C.E.U., 18%). Respondents value professional presentations and listening to approved audio, audio-visual, or video-taped materials equally at 14%. College credit (12%) and clock hours (12%) followed. Reading of professional journal articles is acceptable to only 11% of the respondents, and none accepted practice or experience as an outcome or measure of continuing education.

The approval process by which an individual may participate in an activity to meet continuing education requirements varies tremendously between each profession, with some requirements being more stringent than others. Several respondents indicate that there is no pre-approval process necessary, professionals simply submit proof of participation in the activity (receipts, program, or grades). Other responses indicate that an individual must petition or apply for pre-approval from the licensing or monitoring body. Some continuing education activities must be accredited or cosponsored by an organization or specialty society in order to be approved. Many state boards and professional associations responding to the question have outlined "applications and statement of criteria," policies and procedures, or laws outlining the approval processes and measurements or outcomes that fulfill the continuing education requirement.

The value placed on continuing education requirements by state boards and professional associations:

Continuing education requirements seem to be valued more by state boards and professional associations (35%) than by individuals within the field (23%). Twenty-one percent (21%) of individuals moderately value continuing education requirements. None of the respondents feel that continuing education is somewhat valued by state boards and professional associations.

The providers of continuing education:

Professional associations are the largest providers of continuing education, followed by local universities, consultants, and community colleges (20%).

Table 1. The providers of continuing education:

Professional associations 31%
Local universities 27%
Independent consultants 22%
Community colleges 20%

Other providers of continuing education listed by respondents included hospitals, drug manufacturers, private businesses, medical organizations, private career training schools, and state specialty societies.

In order to qualify to facilitate a continuing education program that fulfills the professional re-licensure requirements, an organization or individual must either have the curriculum approved by the state board (55%) or have the curriculum approved by a professional association (45%). Although state boards and licensing agencies seem to develop standards and approve continuing education requirements, professional associations appear to play a large role in the approval of continuing education providers. Respondents note that there may not be specific requirements leading to a continuing education activity. A cosponsorship with an accredited institution will qualify an instructor in some professional fields.

Respondents to the survey expect that continuing education requirements will change in the following manner:

Table 2. The future of continuing education requirements:

Continuing education requirements will stay about the same	64%
Continuing education requirements will increase	29%
Continuing education requirements will decrease	7%

Oregon Education Institutions

This section of the study outlines the findings of the Oregon educational institution surveys.

The results of the Oregon public and private education institution surveys yielded a 70% response rate.

The outcomes or measurements used to document participation in continuing education programs vary and are listed below:

Table 3. Outcomes and measurements used to document continuing education:

College credit	32%
Credit for lifelong learning	29%
Continuing education units	22%
Transfer credit	15%
Professional certificate programs	1%
Do not document	1%

Providing transcripts for non collegiate continuing education classes is not a common practice among institutions of higher education in Oregon. Only one-quarter of the respondents (25%) indicate that they offer transcripts for continuing education classes. The remaining 75% do not provide transcripts for continuing education. All of the respondents to the question document continuing education classes in some way.

There are numerous continuing education classes offered at Oregon higher education institutions that meet the state board or professional association licensing requirements. The following courses are offered at educational institutions that meet state board or professional association requirements for licensure or relicensure:

Table 4. Most commonly offered continuing education programs meeting state licensing requirements:

Continuing Education Program	Percentage Offered
Elementary School Teachers	19%
Social Workers	14%
Emergency Medical Technicians	14%
Real Estate Agents	12%
Accountants	9%
Nurse Practitioners	9%
Radiological Technologists	7%
Respiratory Therapists	5%
Physician Assistants	2%
Chiropractors	2%
Optometrists	2%
Massage Technicians	2%
Dietitians	2%

None of the responding institutions offer continuing education programs that meet the state or professional association licensing requirements for physicians, pharmacists, or veterinarians. Comments of respondents indicate that the provision of continuing education in these fields seems to be dominated by drug manufacturers, associations, and specialty societies.

Continuing education trends for the future:

Three major trends for the future of continuing education in higher education institutions emerged from survey respondent comments. The first trend, "Professional Training,"

encompasses the scope of professional continuing education activities and curricula that may be offered by higher education institutions in the future. The second major trend concerns "The Delivery of Continuing Education" and encompasses alternative educational delivery methods such as distance learning and use of technology. The third major trend, "Funding," outlines the fiscal concerns of higher education institutions and their impact on the future.

Table 5. Three major continuing education trends for the future:

1. Professional Training

Professional, vocational, and technical training programs will continue to be examined.
One respondent notes that "advanced computer technology; health occupation continuing education requirements; manufacturing technology upgrading" will be of concern in the future.
Another respondent comments that "continued expansion of Baccalaureate degree programs available through the division of extended programs" will be important in the future.

2. The Delivery of Continuing Education

The delivery of continuing education will change and incorporate the use of technology to create alternative means to serve nontraditional students.

3. Funding

Declining budgets will create new pressures resulting in increasing costs and resource limitations.

Lane County Employers

This section outlines the results of the interviews conducted with employers.

Twenty (20) employers within Lane county were interviewed in person and by telephone. The employers range in size from 14 to 600 employees and by industry type. The interviews lasted from one to two hours.

Requirements for continuing education

The majority of Lane County employers interviewed require employees to continue their education (70%) through a combination of internal company training programs, formal education requirements and meeting professional association requirements. The remaining 30% do not require any type of continuing education. The requirement is usually informal, that is, both expected and encouraged (57%) rather than formally incorporated into company policies (43%).

Continuing education is most likely to be mandatory for classified support staff (32%), managers (29%), technicians (27%), and sales staff (12%). Professional staff are frequently required by the state to be licensed or maintain a license e.g., accounting, nursing assistants. Technical positions typically are required by the state to be licensed or certified in areas such as safety, machinery operation, welding, and the like.

Continuing education and the fulfillment of licensure requirements

The majority of respondents indicate that their continuing education requirements fulfill state board or professional association requirements for licensure and relicensure. Fulfillment of a state or professional licensing or relicensing requirement most often was in the area of safety and technical fields. Examples include plumbers, electricians, welders, and medical practitioners (respiratory and radiological technicians).

The value of outcomes designed to measure possible competency in a skill or subject through continuing education are as follows:

Table 6. Outcomes of continuing education that demonstrate a possible measure of competency:

Outcome or measure of competency	Percentage
College Credit	19.5%
Practice / experience	19.5%
Continuing Education Units	16%
Professional Conference Attendance	9%
Listening to approved audio, audio-visual, or video-taped materials	9%
Certification	6%
Clock hours	6%
Lecture hours	6%
Hours of attendance at lectures	6%
Reading of professional journal article (s)	3%

One employer states that "None [of the above listed outcomes or measures] are valued more than the other; we are interested in skills." This sentiment is echoed throughout the business community. For the most part, employers are solely interested in the performance and skill levels of employees.

Measurements representing competency are difficult to capture as the majority of employers interviewed value competency, skills, and knowledge above and beyond tangible measurements such as the outcomes listed above. The responses to the measurement question are minimal, which may be due to the fact that organizations are not requiring employees to

prove their competency, nor do many seem to track training and education. Organizations stress the importance of employees being able to make decisions to get the job done. The organizations that are able to place value on any of the measurements listed value formal education and certification, as well as state or professional licensure or certification requirements. Several employers express interest in competency measures other than those listed above that meet industry standards for quality, such as ISO 9000 (International Standards Organization) , or APICS (American Production Inventory Control Society). They note that all of the measurements listed above might be included informally in their industry certification requirements, but that none are valued more than others. Respondents note that college credit (19.5%) may be valued as grades are often required for reimbursement purposes.

The perceived benefits of employees participating in continuing education

Organizations perceive benefits for encouraging employees to participate in continuing education activities. Forty-two percent (42%) perceive a higher quality workforce results from continuing education activities. Twenty-nine percent (29%) perceive increased productivity to be a benefit. Increased employee retention (16%) and job satisfaction (13%) were also perceived to be benefits of continuing education. Comments on the perceived benefits of organizations encouraging employees to participate in continuing education can be categorized into the following four themes, which include the comments of respondents.

Table 7. Perceived benefits from employees participating in continuing education:

1. Increased skills within the organization

Respondents indicate that training and continuing education increase the skills and overall quality of their workforces.

2. Increased standards within the organization

Employers interviewed generally feel that training and continuing education "increase the standards of practice and maintenance. Training brings in new information on trends, procedures, equipment, organizational development."

3. Decreased liability through continuing education

General liability is perceived by employers to decrease through training and education.

4. Increased understanding of interrelatedness of jobs

Training and education are perceived by employers as a way to increase stimulation, aid in cross - training of employees, increase morale, and aid in succession planning for positions.

Most organizations had either proportionally low or high numbers of employees participate in continuing education activities within the past year. Those who participated in continuing education or training most likely (75%) had the cost covered (95%+) by their employers.

Table 8. Percentage of the workforce that received continuing education in 1993:

A. Percentage of workforce

B. Percentage of workforce that received continuing education in 1993

A.	B.
0-10%	32%
95%+	27%
10-25%	18%
76-95%	14%
26-50%	4.5%
Unknown	4.5%
51-75%	0

Table 9. Percentage of the overall cost of continuing education covered:

A. Percentage of continuing education cost

B. Percentage of continuing education cost actually covered by responding organizations

A.	B.
95%+	75%
26-50%	15%
0-10%	10%
10-25%	0
51-75%	0
76-95%	0
Unknown	0

The percentage of payroll spent on continuing education

Most organizations are unaware of what percentage of payroll they spend on continuing education. The majority of respondents able to answer the question (8) stated that under 1% of payroll is spent on continuing education (75%). Twelve-and-one-half percent (12.5%) spend between 1 and 4% of payroll on continuing education. None of the organizations interviewed spend more than 4% of their payroll on continuing education.

Those who covered the cost of continuing education and training typically have training budgets of between $20,001-$50,000. The following budgets for training exist within the organizations interviewed:

Table 10. Budget for training:

Budget Range	Percentage
0-$5,000	22%
$20,001-$50,000	45%
$50,001+above	22%
$10,001-$20,000	11%
$5001-$10,000	0

Several organizations indicate that their training budgets were as high as $150,000 - $1 million but that these budgets comprised less than 1% of the organizational budget when including profits.

Employer requirements for participating in continuing education

Increased job performance (33%) is most commonly required of employees who participate in continuing education activities. Grades are required by 24% of the organizations responding. Nineteen percent (19%) of respondents indicate that employees must prove competency using internal organization standards.

The providers of continuing education and training for organizations interviewed are:

Table 11. The providers of continuing education:

Provider	Percentage
Community college	25%
Independent consultant	24%
Professional associations	19%
Internal training department of program within the organization	17%
Local university	15%

The value of continuing education

Continuing education is perceived to be valued slightly higher by the organization than by the employee. Respondents indicate that continuing education is valued highly (82%), moderately (14%), and somewhat (4%) by their organizations. No respondents indicate that continuing education is not at all valued by their organization. The same respondents perceive employees within their organization to value continuing education highly (55%), moderately (41%), and somewhat (4%). No one perceives that employees do not at all value continuing education. Respondents note that the degree to which employees value continuing education is dependent on "who you talk to," "what it is," and "whether it is mandated or not."

Work related skills to address through continuing education

Work-related skills that employers would like to see addressed through continuing education can be classified into four categories: Leadership & Communication, Electronics /

Computerization, Basic Skills, and Other Skills. The categories below represent major themes and respondent comments:

Table 12. Major themes to be addressed through continuing education

Leadership & Communication

One respondent states, "supervisory skills tailored to the culture of each organization. Basic training on the legal requirements for supervisors"

Electronics / Computerization

The use of technology and electronic in the workplace is noted repeatedly as area lacking skills

Basic Skills

Employer indicate a general concern about the literacy and education levels within the workforce. Basic education including math, reading and writing are a common concern.

Professional and Technical Skills

Professional and technical skills that are job and industry specific are of interest to those interviewed.

Formal training plans

The existence of formal training plans are unusual in Lane County. Ten percent (10%) of the organizations interviewed have training plans in place. These training plans are comprehensive and are incorporated into organizational policies and procedures. Many of the organizations interviewed have policies and procedures in place for continuing education and training. Few organizations have a system in place to track continuing education and training activities, although many others are moving toward that goal. Most indicate that they have functional, yet informal, training plans and deal with training on an ad hoc basis. Most feel that their organizations are supportive of continuing education and training activities.

Respondents note the following perceived organizational training needs:

Table 13. Perceived organizational training needs:

Supervision / Leadership	15%
Computer software	15%
Safety Training	14%
Technical Training	13%
Compliance (with regulations)	11%
Communication	9.5%
Basic Education	9.5%
TQM / Continuous Quality Improvement	8%
Personal Growth	5%

The key changes within organizations that will have the greatest impact on their competitive ability in the future include the opportunities organizations will need to seize to meet the changes are summarized below:

Table 14. Key changes affecting an organization's ability to compete in the future:

1. Technological Advances: Technology and automation are key changes facing all employers in every field that will impact their ability to compete in the future. **2. Changing industry standards:** Industry standards and processes create a challenge for the future success of many employers interviewed. **3. Flattening organizations with decentralized authority:** Employers are concerned with decentralizing decision making, empowering employees to be involved with the entire organization and its processes. **4. The need for more varied leadership:** One employer stated an interest in "empowering the workforce so they can make a difference. If we speak as one, we will become one. We walk the talk." Others mentioned that they're transitioning to "more varied leadership within the organization." Recognizing leaders at all levels and empowering the workforce are a primary concerns of respondents. **5. Shifting (increasing and decreasing) resources:** "Dwindling resources, consolidation of work units, job redesign, and possible restructuring" represent employer concerns about resources.

Table 15. Primary opportunities to remain competitive:

1. Training and education of the workforce
2. Compliance with industry standards
3. Increase competition, marketing, and sales
4. Total quality management and organizational development

Opportunities for the community college system: The Lane Community College (LCC) example

During the interviews with employers, respondents were asked, "Can you think of a way that LCC might be able to assist your organization?" Employer responses are representative of

the general issues facing Oregon community college programs and services. The responses vary drastically from simple resource suggestions to training needs to visionary program partnership opportunities between business and education. Three themes present opportunities for the community college system: "Resource links" list comments surrounding the availability of resources within the community; "Training and education needs" list comments pertaining to LCC programs or training needs; and "Visionary program partnership possibilities" list comments that have the potential to foster partnerships between LCC and business and industry.

Table 16. Three themes that present opportunities for community colleges

1. Resource links

Many employers appear to be unaware of the resources available within the community and view LCC as a mechanism to access community resources.

2. Training and education needs

Many employers identified industry, job, or topic specific training needs and seek providers to deliver the specific needs.

3. Visionary program partnership possibilities

Wood products company: "Help us address a changing workforce and make it attractive for motivated employees. We would like to move away from shift work, having the current workforce work 40-hour work weeks and receive full benefits. We would then like to create 50 positions to be filled by people (hopefully students) who work nontraditional schedules. They would be paid and would receive paid tuition (the reimbursement would increase for good grades) to attend LCC and the University of Oregon should they decide to continue their education. This program would help us to reclassify our existing employment system, creating jobs for those seeking an education. Perhaps work study would be an avenue for this partnership. We would need to develop a mechanism through LCC to help us screen potential students / employees."

Manufacturing company: "We would like LCC to be a leader on the forefront with current information on industry changes, able to forecast what will be necessary for our industry."

Manufacturing company: "We would like to have well - defined cooperative work with LCC. The machines at LCC don't help. We would like to bring classes out to our site from LCC to use our machines which are up-to-date. We want to be a good community member, and we want LCC to get into the lead."

Timber company: "Have visionary programs. We have many education and training classes which are offered by outside consultants. I know LCC can offer the same programs, possibly with more comprehensive programs. We are willing to pay for services. I would like for LCC to come meet with our education council to discuss the range of possibilities that you may offer. These may include programs you are currently offering and programs you are not offering...Show us what you can do. Perhaps we will want to contract for innovative services to serve our workforce. We want to be partners with LCC and see endless possibility. You need to take the lead and show us what you can do."

Public utilities company: "We want stronger links with the community, especially concerning issues with low-income customers. May link LCC low income students to different plans in the future. We would like to increase public relations to establish internships to encourage participation and career interest in utility. We would like to work more closely with LCC in the future."

These suggestions and visions from Lane county employers present themselves as excellent opportunities, not without challenge, to LCC to further its leadership role within the community. The above comments are representative of the opportunities and roadblocks facing Oregon educational institutions. Each program possibility represents a chance for partnership and collaboration. However, each vision involves a degree of responsiveness to change and flexibility in order to be successful. The challenges presented offer feedback on current programs as well as insight into future programs and activities that may strengthen the continuing education system in Oregon.

IV. Discussion

This section discusses the implications of the findings of this study.

Little coordination exists among each group addressing issues of training and continuing education in Oregon. An analysis of the efforts of each group follows.

Oregon Education Institutions

A variety of continuing education classes that meet state or professional association requirements for licensure are offered through Oregon education institutions. Elementary school teachers, social workers, emergency medical technicians, and real estate agents are the professions with continuing education programs most commonly offered in the educational setting. Educational institutions do not offer programs that fulfill the continuing education requirement for physicians, pharmacists, or veterinarians. Continuing education in those fields is required and facilitated by the professional associations themselves.

Educational institutions appear to offer continuing education programs according to market demands. Courses are not offered in conjunction with those offered by professional associations, and the two groups often compete for a market share of the training and education business. The training and continuing education offered by educational institutions typically are concerned with the granting of credit or continuing education units (CEUs). Professional associations do not emphasize degrees, but rather experience and participation. It follows then that the fields completing their required units at educational institutions emerge from more academically oriented professions such as teaching and social work.

Educational institutions view professional training as the largest trend for the future. Educational institutions seem to be increasing the amount of professional training offered and are altering the delivery methods of such training activities to meet the needs of non - traditional learners. The responsiveness to non-traditional learners and alternative learning styles may be a result of the third largest trend for the future: continuing education as a funding source. Varying

the delivery of professional training provides educational institutions with a competitive marketing edge.

In an effort to increase the marketability of credits and continuing education units, some educational institutions are implementing proficiency based transcripting systems. Proficiency-based transcripting systems may offer a bridge between the individual and his or her profession. Through transcript proficiencies, CEUs become portable with the individual rather than remaining tied to a specific position or organization. With a proficiency - based transcript, an individual will be able to offer proof of proficiency to a number of organizations, describing the knowledge and skills of the individual rather than the company-specific position. Proficiency-based transcripting systems may narrow the gap between the needs of associations, boards and employers. The success of such a program relies heavily on community input, collaboration, and acceptance, and utilization. Absent that, such a system would merely be another bureaucratic creation.

As state budgets decrease, educational institutions will need to become increasingly creative to make up the difference. Continuing professional education seems to be viewed as a way to make a profit and compensate for budget deficiencies. The pressure to make up for lost revenues may compound an institution's ability to collaborate successfully with others to create proficiency-based transcripting systems or a single coordinated system to deliver continuing education.

State Boards and Professional Associations

State boards and professional associations have large investments in continuing education and training activities.

> Data from the 1987 U.S. Census Bureau survey showed that associations are the fourth largest source from which employers purchase education, training and support, representing over 14% of the total market. Associations are an important resource for learning activities, receiving $1.3 billion annually from employers to keep their workforces up to date (Carnevale, Gainer, Villet and Holland, 1990. p. 4).

Originally established as a means to uphold professional competence, continuing education requirements are often established by either state boards or professional associations. The two organizations sometimes coordinate their efforts. Continuing education and training is frequently required, approved, and provided by professional associations.

Professional conference attendance is the top outcome and measurement accepted by state boards and professional associations. Professional associations frequently host the conferences that fulfill continuing education requirements, serving as the sole providers of training and continuing education in their fields. Continuing education is valued more highly by the professional associations than by the individuals who are members of the professional associations who work within the field. Professional associations and state boards have created a need, established requirements. They currently dominate as providers of training and continuing education in their fields.

The future of continuing education is perceived to be static, with minimal movement towards increasing standards. Most respondents feel that the requirements will either stay about the same or increase. This may be indicative of board or association plans to either continue working in isolation or plans to coordinate efforts, depending on the profession.

State boards and professional associations seldom coordinate their continuing education requirements with higher education institutions. A single comprehensive system to educate employees of the workforce is needed. A study conducted by Somers in 1993 explores learning activities in associations and recommends that, "associations take the lead in developing cooperative learning projects with institutions of higher education, state and local government organizations, and private industry" (Somers, 1993. p. 148). The mere existence of professional associations and state boards may be threatened by coordination efforts. The coordination of efforts may allow additional providers into the market. Coordination threatens the training monopoly that they have created for themselves. The disjointed system that currently exists will need to be re - engineered to do a better, more comprehensive job of educating employees of the workforce.

Employers

Training and continuing education within organizations is pieced together, prompted by a number of factors. A deficiency in skills or knowledge that affect an individual's ability to do a job motivate employers to invest in training and education for employees. Additional motivating factors include adherence to professional association and state relicensure requirements. Degrees seem to be generally viewed by employers as qualifiers to screen applicants for positions. In some cases, degrees and continuing education are required to become and remain employed in professions such as teaching, counseling, accounting, and social work.

Employers state that college credit and practice or experience are the most acceptable measures of competency in a field. However, when employers state that they accept college credit as a measure of competency, they are almost always linking credit with grades, which they relate directly to reimbursement. College credit and grades are valued merely as proof of completion or participation in an activity. Employers repeatedly state that what is ultimately most important is not college credit, grades or participation, but the skills and knowledge the employee brings to the job. They are interested primarily in the application of skills and knowledge to the workplace.

Employers note an intangible effect of training and education: educated people are able to make good decisions. The ability to make good decisions affects an organization in numerous, and sometimes tangential ways. One employer states that "people who are poorly educated are not good consumers of medical care. Better educated people make better decisions, which decrease our medical plan costs." Another employer mentions that "knowledge builds steadfast employees." Employers state that training "increases understanding of how a job relates to other jobs" and "increases morale within the company." They recognize that through training and continuing education, skills and standards increase. Employers recognize the value and benefit of training and education and will seek it out to meet emerging and immediate needs.

Few employers have formal training plans, nor do they measure the effects of training. Some employers are implementing internal organizational standards and proficiencies. These standards and proficiencies create a job analyses framework from which employment and promotion decisions can be made. While such programs are innovative, they serve as a separate credentialling system unique to the individual organization. Credentialling systems unique to individual organizations are not always beneficial to employees because they may not be standardized, accepted, or transferable among companies. If employers could coordinate their efforts at developing workplace proficiencies and training and education programs to correspond with the continuing education requirements of professional associations and state boards, a system beneficial to the employee, the business community, and society would be more likely to result.

Employees value continuing education and training to a lesser degree than do employers. This may be a result of the disjointed nature of continuing education and training that currently exists. The rewards for employees participating in training and continuing education are currently specific to the organization and seldom apply to the requirements of professional associations. A single system that documents levels of skills or knowledge throughout the continuum of education and work would give employees and employers something tangible and transferable.

One quarter of those employed in the organizations interviewed participate in training and continuing education. Many receive financial support from their employers for their participation in the activity. Employers recognize the value of a trained workforce, although few have instituted formal training plans. Training needs are determined primarily on an ad hoc basis. The training and education that is offered is seldom beneficial to both the employer and employee. "The lack of standardization across the system makes it difficult for workers to combine courses in a logical sequence of advancement toward higher skilled work (NCEE, 1990. p. 56). Employers are challenged to address an individual's training needs as they relate to the organization, the requirements of state boards and professional association.

Requirements of employers and professional associations, combined with the individual and personal needs of employees, complicate efforts to create a single coordinated system for lifelong learning.

V. Conclusion

The current continuing education system, shared among 1) educational institutions, 2) employers, and 3) state boards and professional associations, is in need of stronger coordination. Many businesses currently support continuing education efforts, although businesses are divided when employees seek training that enhances skills that are transferable between organizations. Many standards for licensure and relicensure are met through training facilitated by professional associations who are the sole providers of education in their field. Organizations often pursue their own internal training and education interests. Educational institutions seem to focus on credit and degree based systems which are not of primary interest to business, professional associations, and state boards. It is the aim of state initiatives such as the Workforce Quality Act to bridge these gaps, providing a coordinated system for lifelong learning.

This study offers a glimpse into the current continuing education system in Oregon. Findings of this study confirm that each group tends to operate in isolation of one another, often competing for the same market. Oregon Shines supports this finding, stating that continuing education efforts are "uncoordinated and scattered among a variety of public and private sector institutions. Some programs meet local needs well, but others suffer because business and education institutions are not communicating well with one another" (Goldschmidt, 1989, p.15). In the five years since the act began, not much progress has been made. The challenges facing Oregon are complex. Efforts aimed at coordinating and creating a system for lifelong learning seem scattered and inconsistent, with many factions striving to fulfill their own needs. The possibilities for collaboration among government, education, and industry are numerous, and contain roadblocks. Much effort will be required if workforce benchmarks are to be met. The following recommendations offer suggestions for increasing collaborative efforts.

VI. Recommendations

The NCEE report, "America's Choice: High Skills or Low Wages" stated in 1990,

> At the local labor market level...Lack of information on provision, price, and quality continually frustrates the efforts of employers, agency officials and customers to navigate the system. The result is a crazy quilt of overlapping policies and programs, with no coherent system of standardization or information exchange services on which various providers and agencies can rely (p. 54).

The image of the crazy patchwork quilt remains the same in 1994. This study shows that within Oregon, little coordination exists among educational institutions, state boards / professional associations, and business / industry. A single coordinated system to deliver workforce training and education is needed. While Oregon's workforce initiative and educational reform efforts offer the initial concepts for a comprehensive system, the roles of the three groups need further definition and development.

A move towards proficiency - based systems

> A system of Employment and Training Boards should be established by Federal and State governments, together with the local leadership to organize and oversee the new school-to-work transition programs and training programs we propose (National Center on Education and the Economy, 1990, p. 87).

Leadership is needed from each group to develop a coordinated system for continuing education. Diplomas and degrees appear to be undervalued in comparison with values

employers place on skills. Business and industry repeatedly indicate interest in employees who "can do the job." The associate and baccalaureate degrees may no longer be proof of proficiency in basic skills needed in the professional, and technical arenas.

Educators and employers are making a conscious move towards proficiency-based training and education. The Education Act for the 21st Century sets forth proficiencies for basic skills and technical / vocational programs through the CIM and the CAM. Oregon is challenged to develop proficiencies that can be used at all levels of education as well as in the workplace. Voluntary collaboration and partnerships are crucial to the development, implementation, and success of these standards.

Two state-wide efforts to develop proficiency based assessment systems and standards are in effect. The Oregon Workforce Quality Council has undertaken a joint project on statewide articulation. More than $1.6 million stands behind curriculum development for the CAM and 2+2/Tech prep statewide articulation programs. The CAM curriculum development and 2+2/Tech prep projects will be coordinated by a statewide consortium of school and education service districts and community colleges (Oregon Department of Education, "Education First", May 1994, p. 3). In addition to the Workforce Quality Council's project, a joint effort between several Oregon community colleges on proficiency based assessments has begun. The aim of this task force is to clarify the role of the community college within current education and workforce reform activities. The task force aims to take a leadership position in developing and implementing standards for proficiency based assessments at the community college level. These two state-wide efforts combined, broadly address issues raised through reform efforts in Oregon. The concepts and projects currently being discussed at the statewide level will need to be further extended into individual education institutions and workplaces.

A move towards a proficiency - based system at the community college level

Community colleges will need to take a leadership position and determine a role within the newly emerging system. The CAM will alter the nature of post secondary education, leaving technical and vocational programs vulnerable to a new set of standards. Implemented for technical and vocational programs, proficiency based transcripting systems could strengthen the community colleges' position for the future. With a proven history of effective vocational-technical training and retraining of displaced workers, community colleges have demonstrated the ability to respond to the needs and demands of an ever changing society. They are well positioned to assume a leadership role in this emerging environment by implementing proficiency-based transcripting systems.

The process of implementing proficiency-based transcripting system involves several steps. Steering committees need to be formed drawing on the resources of existing departmental advisory committees. These steering committees, comprised of business and community members would combine their collective expertise to guide the development of proficiencies responsive to workplace needs. The ultimate goal of the steering committee efforts would be to create a transcripting system to document general and job specific skills and proficiencies. Voluntary community involvement in the creation, implementation, and utilization of proficiencies is critical to success. The SCANS Blueprint for Action, offers the following recommendations for educators to create a single coordinated system for lifelong learning.

> Work with students, parents, teachers, and employers to ensure that your school's system at all levels is actively addressing the community's workplace needs. Form an advisory group of business and union leaders to assist you and your staff with the development of work relevant curricula (SCANS Blueprint for Action, 1993, p. 13).

Vocational and technical programs offer a starting point for the steering committees to develop and transcript workplace proficiencies. The committee work begins with a review of the proficiencies set forth in the CIM and CAM. The committee would then explore the technical and vocational areas of the community college to measure the current skill and proficiency levels of students upon graduation. The proficiency levels of the community college programs would need to be evaluated against the proficiencies of the CAM to ensure that there is a progression of increasing skill and knowledge levels. After a review of the programs, general and workplace specific professional proficiencies could be developed accordingly. SCANS lays the groundwork for the steering committees to begin form general and job specific competencies in Skills and Tasks for Jobs (1991). The report outlines general skills in detail, and offers specific examples of proficiencies in numerous professions.

The greatest challenge in developing workplace proficiencies lies in the ability of the college to collaborate with business, industry, and the community to share expertise. Without collaboration, a proficiency based transcripting system may exist, but may not be recognized or valued by any group other than educators. The following issues are important to address in moving towards a proficiency based system at the community college level:

The role of professional association in the development of a proficiency-based system for lifelong learning

Professional associations requiring continuing education for relicensure will be forced by reform efforts to re -examine their role within the new system as the CAM redefines post secondary education. Association regulations currently serve as a credentialling system separate from higher education and state boards. Under the new model, standards set by professional associations could block the formation and success of one single coordinated system within Oregon. Ideally, professional associations will work with each group to develop and define common standards and proficiencies utilizing the strengths and expertise of all parties. "Association members have a wealth of talent and expertise to contribute to

this venture. Technical and entry- level skills development are the most effective contents for these learning activities" (Sommers, 1993. p. 148). Association input from that level is valuable and will need to be included with others to create a single coordinated system.

Addressing the needs of individuals in the workforce

Understanding and addressing employees' needs are crucial to the successful development of relevant programs that promote lifelong learning and continuing education.

> An inherent dilemma for creating and maintaining a proficient workforce is the need to balance the immediate needs of workers and employers with the long range needs of the state for continued economic development and a highly skilled work force. One way to resolve this dilemma and to ensure a workforce capable of adapting to change is to educate individuals rather than only train them for specific skills (Kempner, 1991. p.5).

Proficiencies such as those outlined in the SCANS Skills and Tasks for Jobs (1991) report offer standards for measuring education that can be applied broadly to the individual in the workplace as well as to a specific professional skill. Proficiency-based transcripting systems, documenting an individual's workplace skills and ability, may offer an important contribution to individuals, education, and business. In designing a proficiency-based transcripting system, community colleges would be able to continue to provide training and education in multiple professional arenas while documenting the skills and proficiency of individuals within the workforce. Such a system would ideally benefit organizations, employees, and the professions.

Each of the groups need to continue to collaborate and coordinate to form one single system for lifelong learning.

> The Oregon Education Act for the 21st Century must not be implemented piecemeal. Mechanisms must be developed to ensure that its implementation leads to a system wide transformation of public schools (Oregon Business Council, 1993. p. 25).

Likewise, the Workforce Quality Act should not be implemented piecemeal or in isolation from the Oregon Education Act. Efforts must be coordinated or the work will be in vain with few lasting improvements. The Workforce Quality Act, if implemented piecemeal, is in danger of becoming an unsuccessful reform effort. Without comprehensive efforts at re-engineering the current infrastructure and support systems, the efforts of all the acts could be lost. Together the two acts propose a comprehensive training and education system for lifelong learning. Each act contains statements that are in need of follow through, commitment and collaboration.

> Community college leaders, business and industry executives, and government officials need to work together to define a coherent system for providing workforce training. They need to acknowledge and value the roles that each has to play to ensure the expansion and improvement of workforce training in all types and sizes of organizations (American Association of Community Colleges, 1993. p. 9).

The three groups will need to continuously recommit to raising skill standards within Oregon.

> The greatest opportunity for state government to influence Oregon's economic situation in the coming decade may be to recommit itself to raising the skill levels of current and future workers...(Cortwright & Miller, 1992, p. 18).

State and federal government, business, industry, and educational institutions will, as organizations, need to commit to the dramatic changes needed to increase skills in Oregon through a comprehensive system of lifelong learning. The federal government will need to set the pace by recommitting itself to renewing and raising the skills of workers through public policy. The rhetoric implying commitment to building the skills of the state will be put to the test as continued funding and support are needed to re engineer existing systems. Continued research and evaluation of reform efforts will provide direction in policy and funding choices. Education and business should not operate in isolation of one another. To avoid constructing another patchwork quilt, the three groups need to abandon isolated work styles and build lasting relationships with common goals and understandings.

> The federal government should identify the expansion and improvement of workforce training and the upgrading of worker skills as the core of economic strategy. The federal government must identify as a national priority the creation of a skilled and adaptable workforce that can compete successfully with any in the world (American Association of Community Colleges, 1993).

As a national priority, the federal government and state legislature should become advocates of skill development through continuing education and lifelong learning. Resources currently available will need to be re-allocated and re-prioritized to support the advancement and

education of the workforce. Increased support for continued research and development will need to play an important role in the advancement of state efforts for a single coordinated system of education and workforce enhancement.

The need for continued measurement and evaluation of progress towards the benchmarks

Oregon needs to continue to measure and evaluate its progress towards both the Education for the 21st Century and Workforce Quality Acts. By evaluating and measuring progress, a successful system capable of evolving may emerge. The system must be measured and evaluated against the benchmarks and goals of both acts to ensure that work and progress remain current, with the best interests of Oregon's future at the center of all progress.

> One particularly important focus for their research is the effectiveness of government - funded human resource programs. Policy makers need to know which programs work, which do not, and why. Unfortunately, answering these questions often expensive and time consuming...In general, the most important factors to be measured are bottom-line effectiveness on productivity, employees' incomes, and employers' profits (Department of Labor, 1989. p. 37).

Evaluating and measuring the success of any public policy argument may help make the case for future funding of improved reform efforts.

Each group involved in continuing education and lifelong learning separately contain a wealth of resources. By combining their strengths and resources, the current system may be redeveloped to create a single coordinated system that increases the skills and education levels of Oregon' s human resources.

Questions for the future

Measuring and evaluating the success of reform efforts such as the Workforce Quality Act and Education Act for the 21st Century is challenging as many of the objectives are somewhat nebulous. How can intangible standards be measured? Each group involved in the reform efforts will need to define common goals and objectives against which reform efforts can be measured. Questions will need to be continuously raised and addressed throughout the life of the acts.

Substantial collaboration and cooperation is required for the success of these reform efforts. Will there be any repercussions? Will business demand more control within education to compensate for their involvement? If business pressures education for more control, will curricula be compromised? A neutral ground for collaboration will need to be found to ensure the success of future reform efforts.

Will education and workforce reform efforts be successful without re-engineering the entire system? Are universities exempt from reexamination, or should they begin to make strides to coordinate their efforts with the reform taking place in all other arenas? Are advanced degrees still adequate measures of proficiencies in professional fields? Oregon Universities may need to reexamine their role within the reform efforts, perhaps as a participant as well as a driver of reform.

The process of change and reform is political. These questions are not without implications for Oregon. As reform efforts continue, questions, both favorable and adversarial will arise. Hopefully Oregon will be responsive to change, incorporating new ideas and concepts into efforts aimed at creating a single coordinated system for lifelong learning.

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